RESTRICTED CIRCULATION

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2 and 4 inch Soil Temperatures under Glass

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In 1952, 2 inch and 4 inch max/min soil thermometers were used at Cheshunt to examine the gain under Dutch lights.

The gain was found from the mean of 4 values taken inside the lights minus the outside value.

Average monthly values (for weekdays only) were (in degrees F)

	Gain in Maximum		Gain in Minimum	
	2 in	4 in	2 in	4 in
March	6.0	6.2	4.7	3.8
April	8.6	9.7	6.8	7.5
May	8.8	11.1	10.0	10.1

Using, for want of anything better, the Kew midday winds in knots (W) and sunshine hours (S) it was found that the gain in maxima could be expressed as

At 2 inch depth: $0.21\,W + 0.23S + 0.31\,PG_N + 3.2$
where PG_N is the gain in minimum the previous night.
Multiple correlation 0.76, partials 0.44, 0.40, 0.42

At 4 inch depth: $0.14\,W + 0.29S + 0.68\,PG_N + 2.2$
Multiple correlation 0.93, partials 0.36, 0.55, 0.76.

For the gain in minima the formulae were

At 2 inch depth: $0.21S + 0.7\,PG_N + 1.25$
Multiple correlation 0.84, partials 0.36 and 0.71

At 4 inch depth: $0.22S + 0.78\,PG_N + 0.6$
Multiple correlation 0.94, partials 0.55 and 0.85.

Any comments or suggestions on this paper should be referred to the author.

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